

AN APPARATUS HAVING A BOTTOM OPENING POCKET

REFERENCE TO PRIOR APPLICATION

[0001] The current application claims the benefit of co-pending U.S. Provisional Application No. 60/446,675, filed on 02/11/2003, which is hereby incorporated herein by reference.

BACKGROUND OF THE INVENTION

1. TECHNICAL FIELD

[0002] The invention relates generally to apparatuses for carrying items, and more specifically, to an apparatus that includes at least one bottom opening pocket.

2. BACKGROUND ART

[0003] Carrying devices, such as a bag, are frequently used to carry various types of items for various purposes. Many carrying devices are designed to be carried, while other carrying devices are configured to be worn on the body, such as a backpack, or a vest, pair of pants, belt, or the like that includes one or more pockets (e.g., pouches), etc. Frequently, a user will use a carrying device to easily carry one or more items that are desired to be rapidly accessed. For example, a user can place emergency treatment, protective apparatus, supplies, and the like into a carrying device for easier carrying.

[0004] To date, many carrying devices include one or more pockets that can be closed and opened across the top through the use of a zipper, a button, a clasp, a catch, a hook and loop fastener, and the like. However, these carrying devices frequently do not provide sufficiently

easy access to the contents. For example, a user will often need to divert his/her attention in order to open the pocket and/or locate the contents of the pocket.

[0005] One solution for enhancing the ease with which items can be retrieved from a pocket is by providing a bottom opening pocket. In this case, when the pocket is opened, the contents will drop out due to gravity. However, to date, no general purpose solution has been proposed for carrying any type of item in such a pocket. For example, a bottom opening pocket has been proposed for carrying bullets. Further, diving equipment has been proposed that incorporates a bottom opening pocket for holding diving weights and/or an air tank. Still further, a bottom opening pocket has been proposed for holding plate armor.

[0006] Each of these solutions lack one or more desirable features for a bottom opening pocket that provides for ready access of its contents. For example, most solutions are specifically shaped for a particular item (e.g., bullets, oxygen tank, plate armor), while the user may desire easy access to one or more other items of various sizes and shapes. Further, when designed to be worn on the body, solutions typically propose having the lower flap open toward the body. This limits a user's ability to readily control the contents as they exit the pocket.

[0007] As a result, a need exists for an apparatus that includes one or more bottom opening pockets. In particular, a need exists for a bottom opening pocket having a sufficient size for carrying various items, having an adjustable size, having sufficient support for items of various weights, and/or having a flap that opens away from the user's body to allow for more control of the released contents.

SUMMARY OF THE INVENTION

[0008] The invention provides an apparatus that includes at least one bottom opening pocket. Specifically, under the present invention, a bottom opening pocket is provided that can be attached to any type of apparatus. The apparatus could be configured to be readily carried by hand (e.g., a bag), configured to be worn on the body of an individual (e.g., a backpack), configured to hold an individual (e.g., a wheelchair), etc. In one embodiment, the bottom opening pocket is attached to an apparatus that is configured to be worn on the torso of an individual. In this case, the bottom opening pocket can include a flap that opens away from the body of the individual. Further, the size, shape, and/or area of the bottom opening pocket can be adjustable to allow for various sizes of items to be placed in the pocket and readily retrieved from the pocket. Still further, the bottom opening pocket can be configured to include sufficient support for holding items of various weights.

[0009] A first aspect of the invention provides an apparatus configured to be worn on a torso of an individual, the apparatus comprising: means for holding the apparatus on the torso; and means for attaching a pocket to the means for holding, wherein the pocket includes: an inner side attached to the means for holding; an opening at a bottom of the pocket; a flap for covering the opening; and means for opening the flap away from the torso.

[0010] A second aspect of the invention provides an apparatus configured to be worn on a torso of an individual, the apparatus comprising: a holding system for holding the apparatus on the torso; an attaching system for attaching a pocket to the holding system, wherein the pocket includes: an opening at a bottom of the pocket; and a flap for releasably covering the opening; and an adjustment system for adjustably configuring a horizontal area of the pocket.

[0011] A third aspect of the invention provides an apparatus configured to be worn on a torso of an individual, the apparatus comprising: means for holding the apparatus on the torso; and means for attaching a pocket to the means for holding, wherein the pocket includes: an opening at a bottom of the pocket; an outer side opposite the means for holding; a left side and a right side that form a substantially rectangular holding area along with the outer side; a flap for covering the opening; and means for releasably attaching the flap to the left side, the right side, and at least one of: the outer side, an inner side adjacent the means for holding, and the means for holding.

[0012] The illustrative aspects of the present invention are designed to solve the problems herein described and other problems not discussed, which are discoverable by a skilled artisan.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013] These and other features of this invention will be more readily understood from the following detailed description of the various aspects of the invention taken in conjunction with the accompanying drawings in which:

[0014] FIG. 1 shows an illustrative backpack that includes a bottom opening pocket;

[0015] FIG. 2 shows the illustrative backpack of FIG. 1 with the user accessing an item stored in the bottom opening pocket;

[0016] FIG. 3 shows an illustrative bottom opening pocket;

[0017] FIG. 4A shows an illustrative reflector strip in the closed position;

[0018] FIG. 4B shows the reflector strip of FIG. 4A in the exposed position;

[0019] FIG. 5 shows a back view of an illustrative vest that includes a bottom opening pocket;

[0020] FIG. 6 shows a front view of the vest of FIG. 5;

[0021] FIG. 7 shows an illustrative bottom opening pocket that closes using a drawstring; and

[0022] FIG. 8 shows an illustrative wheelchair that includes a bottom opening pocket.

[0023] It is noted that the drawings of the invention are not to scale. The drawings are intended to depict only typical aspects of the invention, and therefore should not be considered as limiting the scope of the invention. In the drawings, like numbering represents like elements between the drawings.

DETAILED DESCRIPTION OF THE INVENTION

[0024] As indicated above, the invention provides an apparatus that includes at least one bottom opening pocket. Specifically, under the present invention, a bottom opening pocket is provided that can be attached to any type of apparatus. The apparatus could be configured to be readily carried by hand (e.g., a bag), configured to be worn on the body of an individual (e.g., a backpack), configured to hold an individual (e.g., a wheelchair), etc. In one embodiment, the bottom opening pocket is attached to an apparatus that is configured to be worn on the torso of an individual. In this case, the bottom opening pocket can include a flap that opens away from the body of the individual. Further, the size, shape, and/or area of the bottom opening pocket can be adjustable to allow for various sizes of items to be placed in the pocket and readily retrieved from the pocket. Still further, the bottom opening pocket can be configured to include sufficient support for holding items of various weights. As used herein, the term “pocket” is used to refer to any type of bag, pouch, or enclosure used to carry one or more articles. To this extent, the term “pocket” includes an attachment to a larger apparatus such as a child carrier, the storage area of an apparatus such as a duffle bag, etc.

[0025] Turning to the drawings, FIG. 1 shows a user 2 wearing a backpack 10 that includes a bottom opening pocket 12 according to one embodiment of the invention. Backpack 10 is shown including a holding system in order to hold backpack 10 on the torso of user 2. In one embodiment, the holding system includes shoulder straps 14A-B for placing over the shoulders of user 2. Further, backpack 10 is shown including a large pocket 16 that can be selectively closed and opened using zippers 18A-B. Pocket 16 can comprise a typical pocket in which contents can be placed into and removed from pocket 16 from the top and/or side of pocket 16. As is typical, a bottom of pocket 16 can be permanently closed (e.g., sewn together).

[0026] Bottom opening pocket 12 is shown attached to backpack 10 by being attached to an outer side of pocket 16. Bottom opening pocket 12 can be attached to backpack 10 using an attaching system that incorporates any known solution. To this extent, bottom opening pocket 12 can be permanently or removably attached to backpack 10. For example, bottom opening pocket 12 can be attached to backpack 10 by sewing, using one or more hook and loop fasteners, buttons, buckles, straps, zippers, clasps, catches, and the like. While backpack 10 is shown only including pocket 16 and bottom opening pocket 12, it is understood that additional pockets of various sizes, shapes, etc., can also be included. Further, these pockets can be located anywhere on backpack 10, such as on or in pocket 16 and/or bottom opening pocket 12.

[0027] In any event, bottom opening pocket 12 can include a flap 20 that can releasably cover an opening at the bottom of bottom opening pocket 12. In one embodiment, flap 20 is capable of being readily released from bottom opening pocket 12 through the use of a single hand. This allows the second hand to grasp the item(s) located in bottom opening pocket 12. Further, as shown in FIG. 1, bottom opening pocket 12 can be configured to be located on a user's back. In

this case, releasing flap 20 from bottom opening pocket 12 should also be capable of being performed with the limited range of motion that is available to a user 2 when reaching around his/her back.

[0028] FIG. 3 shows an illustrative bottom opening pocket 112 that includes a flap 120 for releasably covering an opening 121 at the bottom of bottom opening pocket 112. Bottom opening pocket 112 is shown with flap 120 in the open position. As shown, bottom opening pocket 112 includes an inner side 122, an outer side 124, a left side 126, and a right side 128 that form a substantially rectangular holding area 130. It is understood however, that inner side 122 could comprise a portion of an apparatus (e.g., an outer side of pocket 16 shown in FIG. 1) to which bottom opening pocket 112 is attached, rather than part of bottom opening pocket 112. Further, while each side is described as comprising a right, left, inner, or outer side, it is understood that any side of bottom opening pocket 112 could be attached to an apparatus (e.g., backpack 10 shown in FIG. 1). For example, left side 126 of bottom opening pocket 112 could be attached to backpack 10 so that flap 120 opens from right to left. Still further, it is understood that holding area 130 of bottom opening pocket 112 could comprise any type of shape such as, for example, a trapezoid, a triangle, a circular, an oval, a cylinder, etc.

[0029] Flap 120 is shown permanently affixed to outer side 124, and can be releasably attached to inner side 122, left side 126, and/or right side 128. For example, flap 120 is shown including hook or loop fasteners 132A-C, while the corresponding sides of bottom opening pocket 112 are each shown including the complementary hook or loop fasteners 134A-C. By using hook and loop fasteners or the like, flap 120 can be readily pulled downward to release the contents of bottom opening pocket 112. By including multiple attachment points for flap 120 to bottom

opening pocket 112, bottom opening pocket 112 can hold heavier items, and the risk of an item falling through a gap formed between flap 120 and bottom opening pocket 112 is reduced. It is understood that flap 120 can be releasably attached to bottom opening pocket 112 in one or more locations using any solution. Further, it is understood that, rather than being attached to inner side 122, flap 120 could be releasably attached to a portion of an apparatus (e.g., an outer side of pocket 16 shown in FIG. 1) to which bottom opening pocket 112 is attached. Still further, it is understood that flap 120 could comprise a continuous portion of outer side 124 that extends sufficiently beyond left side 126 and right side 128 to substantially cover the opening at the bottom.

[0030] Returning to FIG. 1, flap 20 is shown including a pull cord 36 attached thereto. Pull cord 36 can be used by user 2 to assist in detaching flap 20 from bottom opening pocket 12 and/or backpack 10 to access the contents of bottom opening pocket 12. For example, FIG. 2 shows user 2 removing an item 40 from bottom opening pocket 12. In particular, user 2 is shown grasping pull cord 36 with his/her right hand in order to release flap 20. User 2 can then use his/her left hand to grasp item 40. As shown, flap 20, backpack 10, and/or the body of user 2 provide guidance for item 40 as it exits bottom opening pocket 12. This provides user 2 with more control over the movement of item 40 and makes retrieval of item 40 easier.

[0031] Returning to FIG. 1, pull cord 36 allows user 2 to readily locate and open flap 20. In particular, pull cord 36 can be located adjacent to backpack 10 so that user 2 does not need to grasp in the air to locate pull cord 36. It is understood that numerous alternatives to pull cord 36 can be used. For example, a hanging stick, a chain, a loop, a handle or the like could be used. In the latter two cases, the loop or handle can be located close to backpack 10 to be readily located

and reduce the possibility of its becoming hooked on an object. Further, while pull cord 36 is shown including a spool handle 38 attached thereto for assisting user 2 in grasping and pulling, it is understood that pull cord 36 could be implemented without spool handle 38.

[0032] Backpack 10 is also shown including an adjustment system. In one embodiment, adjustment system comprises a pair of straps 42A, 42B that can be used to adjust an area of bottom opening pocket 12. In particular, each strap 42A, 42B can be attached to a location on bottom opening pocket 12 or backpack 10 near where bottom opening pocket 12 is attached to backpack 10. Each strap 42A, 42B can be independently adjusted by using buckles 44A, 44B, respectively, that are each attached at an approximate horizontal center 43 of the outer side of bottom opening pocket 12. This enables user 2 to adjust a cross sectional area of bottom opening pocket 12 based on the size of an item 40 (FIG. 2) that is contained within bottom opening pocket 12. Further, straps 42A, 42B can be tightly adjusted when item 40 is within bottom opening pocket 12 to provide additional support for item 40. It is understood that various other solutions for reducing an area and/or altering a shape of bottom opening pocket 12 could be used as readily apparent to one of ordinary skill in the art. For example, a single strap could be used that includes hook and loop fasteners that enable its length to be adjusted. Further, multiple straps and/or pairs of straps could be included along the vertical length of bottom opening pocket 12. Still further, one or more sides of bottom opening pocket 12 could include hook and loop fasteners or the like that allow the area to be enlarged/reduced.

[0033] Various additional features can be incorporated onto bottom opening pocket 12. For example, bottom opening pocket 12 is shown including a reflective strip 50. In one embodiment, reflective strip 50 can be selectively exposed or concealed. FIGS. 4A-B show an illustrative

reflective strip 150 that can be selectively exposed. In FIG. 4A, reflective strip 150 is shown in the concealed position. In particular, reflective strip 150 is shown attached to bottom opening pocket 12 (FIG. 1) in a center area, thereby forming a left strip 152 and a right strip 154. Left strip 152 can include a hook or loop fastener 156 that allows left strip 152 to be releasably attached to a corresponding hook or loop fastener 158 that is attached to bottom opening pocket 12 (FIG. 1) to expose a pair of reflective areas 160A-B as shown in FIG. 4B.

[0034] Continuing with FIG. 4B, left strip 152 and right strip 154 are each shown including a corresponding pair of hook or loop fasteners 162A-B that allow reflective areas 160A-B to be releasably concealed. Right strip 154 can be permanently attached to bottom opening pocket 12 (FIG. 1) or releasably attached using the same solution as left strip 152. It is understood that reflective strip 150 is only illustrative and various alternatives are possible. Further, reflective areas 160A-B are only illustrative of an item that can be selectively concealed and exposed. For example, instead of reflective areas 160A-B, reflective strip could comprise a name tag or alternative identifier for a user 2 (FIG. 1), a clear pocket for inserting any desired item, a hook or loop fastener, or the like.

[0035] To this extent, as shown in FIG. 1, bottom opening pocket 12 can include an area 64 for temporarily attaching any type of identifier. For example, area 64 could comprise an area of hook or loop fasteners that enables a patch to be releasably attached to bottom opening pocket 12 using the corresponding hook or loop fasteners. Alternatively, area 64 could comprise a clear pocket or the like for inserting a desired object. Various further improvements can be made to bottom opening pocket 12 as known in the art. For example, padding and/or stiffening can be added to one or more sides, the top, and/or the bottom of bottom opening pocket 12. Further, the

bottom flap can also include a zipper or the like for providing a stronger, more sturdy attachment when quick access to the contents of bottom opening pocket 12 is not desired.

[0036] Backpack 10 is only illustrative of the various apparatuses to which bottom opening pocket 12 can be attached. For example, FIGS. 5 and 6 show back and front views, respectively, of an illustrative vest 70 that includes a bottom opening pocket 72. As shown, bottom opening pocket 72 can be attached to a back side of vest 70. Further, bottom opening pocket 72 is shown including a top flap 73 for covering a top opening of bottom opening pocket 72. Top flap 73 can be releasably attached to all or a portion of bottom opening pocket 72 using a zipper or the like. By including a top opening in bottom opening pocket 72, user 2 (FIG. 1) can insert and/or remove one or more items into bottom opening pocket 72 from the top. This may be easier when vest 70 is not being worn by user 2.

[0037] In addition to bottom opening pocket 72, a side opening pocket 74 is also shown attached to vest 70 in a location below bottom opening pocket 72. Further, vest 70 is shown having a pair of top opening pockets 76A-B attached to a front side of vest 70. It is understood that the various sizes and arrangement of pockets is only illustrative. To this extent, vest 70 could include more or fewer pockets in similar or different locations. For example, bottom opening pocket 72 could be attached to the front side of vest 70.

[0038] One or more bottom opening pockets can be attached to other apparatuses other than backpack 10 (FIG. 1) and/or vest 70 (FIG. 5). For example, other apparatuses configured to be worn on a torso of an individual include a waistpack, a belt, a jacket, a shirt, a child carrier, a one-shouldered backpack, a bag, etc. Further, a bottom opening pocket could be attached to other apparatuses configured to be carried by an individual, such as a duffle bag, a suitcase, etc.

Still further, a bottom opening pocket could be attached to an apparatus in which an individual is located. For example, FIG. 7 shows an illustrative wheelchair 80 having a bottom opening pocket 82 attached thereto. It is understood that numerous apparatuses for individuals are possible including a seat, a chair, a stroller, a wheelchair, etc., as well as other apparatuses for carrying items such as a luggage carrier, a hand truck, etc. To this extent, the bottom opening pocket can be applied to many uses including carrying emergency equipment, carrying clothing that can be accessed by a child, and many other applications not specifically mentioned herein.

[0039] Additionally, while the bottom opening pocket has been primarily shown and described as including a flap or the like for providing access to the item(s) in the bottom opening pocket. It is understood that various alternatives to a flap can be used to provide quick access to the bottom opening pocket. For example, FIG. 8 shows a bottom opening pocket 90 that has an opening substantially closed using drawstring 92. In this embodiment, user 2 can access an item in bottom opening pocket 90 by stretching the opening constricted by drawstring 92. In this manner, the material of bottom opening pocket 90 previously constricted by drawstring 92 may form a chute through which an item in bottom opening pocket 90 will pass. As a result, user 2 will maintain better control over the item during retrieval.

[0040] The foregoing description of various aspects of the invention has been presented for purposes of illustration and description. It is not intended to be exhaustive or to limit the invention to the precise form disclosed, and obviously, many modifications and variations are possible. Such modifications and variations that may be apparent to a person skilled in the art are intended to be included within the scope of the invention as defined by the accompanying claims.